

REMARKS

The Examiner is thanked for the careful examination of the application. However, in view of the foregoing amendments and the remarks that follow, the Examiner is respectfully requested to reconsider and withdraw the outstanding rejections.

The specification was amended to clarify the direction of movement. Support should be clear from the specification, in general, and Figure 7, in particular.

A preferred embodiment of the present invention includes a plurality of process chambers 21, 22, 23, and 24 and a through-chamber 8. The plurality of vacuum process chambers are hermetically connected to the perimeter of the through-chamber. The preferred embodiment of the present invention further includes a carry system, a portion of which is illustrated in Figures 2 and 3 for carrying a substrate through the through-chamber to the plurality of vacuum process chambers. The carry system comprises a substrate holder which holds a substrate upright in such a way that a plate surface thereof forms an angle to the horizontal of between 45° and 90°. A horizontal movement mechanism moves the substrate holder via the through-chamber to the plurality of vacuum process chambers. In addition, as illustrated in Figure 1, in a preferred embodiment of the present invention, an intermediate or alignment chamber 7 is provided adjacent the through-chamber. In the alignment chamber, the horizontal movement mechanism is able to move the substrate holder such that a substrate being held on the substrate holder moves in a sideways

direction with respect to the plate surface thereof, as well as in a principal direction thereof so as to align the carry system with the through-chamber.

In a preferred embodiment, the alignment or intermediate chamber 7 enables substrates to be brought into the system through load and unload chambers 11L and 11R. Because of the sideways movement in the alignment chamber, the substrates can be brought into alignment with the carry system in the through-chamber, and still enable the carry system to form a compact arrangement within the through-chamber, thus enabling a smaller diameter of the through-chamber than would otherwise be possible.

According to the outstanding Office Action, claims 1-12 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,738,767, hereinafter "Coad", in view of U.S. Patent No. 4,651,674, hereinafter "Hayashi".

Coad teaches a substrate handling system which also has a kind of buffer chamber, which is illustrated in Figure 2 by reference numeral 24. Load lock and unload lock chambers 26, 28 are provided to introduce substrates into the system. Because the Coad device does not include any type of intermediate or alignment chamber, the carry system in the buffer chamber must receive the substrates in alignment with the direction in which they move within the load and unload chambers 26, 28. Accordingly, as can be seen in Figure 2, each of the carrier positions 74, 76 must be spaced from a vertical axis 72 by a distance D. The spacing requirement requires that the buffer chamber 24 has a larger

diameter than would otherwise be necessary if the carrier positions 74, 76 could be made closer to each other.

Accordingly, in view of the fact that the present invention has now claimed in the independent claims 1, 6, and 11, each has an alignment chamber, the claims of the present application are now clearly patentable over the cited prior art.

Support for the amendments to the independent claims may be found in Fig. 7, as well as in paragraph 0057 of the published application.

Accordingly, the Examiner is respectfully requested to reconsider and withdraw the outstanding rejections.

To further define the protection to which applicant is entitled, new claims 13 - 15 are added. Support may be found in paragraph 63 of the published application. The new claims are patentable at least for the reasons set forth above with respect to the independent claims.

The Examiner is also advised that an Information Disclosure Statement is being filed concurrently herewith. The Examiner is respectfully requested to consider the information submitted with the Information Disclosure Statement and return an initialed copy of the PTO 1449 form to Applicant's attorney.

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In the event that there are any questions concerning this response, or the application in general, the Examiner is respectfully urged to telephone the undersigned attorney so that prosecution of the application may be expedited.

Respectfully submitted,

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